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11 July 2019

Proposed Loan North–South Corridor (Kvesheti–Kobi) Road Project (Georgia)

1. The Report and Recommendation of the President (RRP: GEO 51257-001) on the proposed loan to Georgia for the North–South Corridor (Kvesheti–Kobi) Road Project is circulated herewith.
2. This Report and Recommendation should be read with *Country Operations Business Plan: Georgia, 2019–2021*, which was circulated to the Board on 7 September 2018 (DOC.IN.302-18).

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Report and Recommendation of the President to the Board of Directors

Project Number: 51257-001
July 2019

Proposed Loan Georgia: North–South Corridor (Kvesheti–Kobi) Road Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 19 June 2019)

Currency unit	–	lari (GEL)
GEL1.00	=	\$0.3601
\$1.00	=	GEL2.7769

ABBREVIATIONS

ADB	–	Asian Development Bank
CAREC	–	Central Asia Regional Economic Cooperation
EBRD	–	European Bank for Reconstruction and Development
EMP	–	environmental management plan
ETCIC	–	Eurasian Transport Corridor Investment Center
FMA	–	financial management assessment
GDP	–	gross domestic product
km	–	kilometer
LARP	–	land acquisition and resettlement plan
m	–	meter
MRDI	–	Ministry of Regional Development and Infrastructure
PAM	–	project administration manual
PBM	–	performance-based maintenance
PMCSC	–	project management and contract supervision consultant
PPRA	–	project procurement risk assessment

NOTE

In this report, “\$” refers to United States dollars.

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CONTENTS

	Page
PROJECT AT A GLANCE	
MAP	
I. THE PROPOSAL	1
II. THE PROJECT	1
A. Rationale	1
B. Impacts and Outcome	4
C. Outputs	4
D. Summary Cost Estimates and Financing Plan	5
E. Implementation Arrangements	6
III. DUE DILIGENCE	7
A. Technical	7
B. Economic and Financial	8
C. Governance	9
D. Poverty, Social, and Gender	10
E. Safeguards	11
F. Summary of Risk Assessment and Risk Management Plan	12
IV. ASSURANCES	12
V. RECOMMENDATION	12
APPENDIXES	
1. Design and Monitoring Framework	13
2. List of Linked Documents	15

PROJECT AT A GLANCE

1. Basic Data		Project Number: 51257-001	
Project Name	North–South Corridor (Kvesheti–Kobi) Road Project	Department /Division	CWRD/CWTC
Country Borrower	Georgia Ministry of Finance of Georgia	Executing Agency	Ministry of Regional Development and Infrastructure of Georgia
2. Sector	Subsector(s)	ADB Financing (\$ million)	
✓ Transport	Road transport (non-urban)		415.00
		Total	415.00
3. Strategic Agenda	Subcomponents	Climate Change Information	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	High
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns	ADB Financing	
Regional integration (RCI)	Pillar 1: Cross-border infrastructure	Adaptation (\$ million)	170.00
4. Drivers of Change	Components	Gender Equity and Mainstreaming	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Partnerships (PAR)	International finance institutions (IFI) Official cofinancing		
5. Poverty and SDG Targeting		Location Impact	
Geographic Targeting	No	Regional	High
Household Targeting	No		
General Intervention on Poverty	No		
SDG Targeting	Yes		
SDG Goals	SDG3, SDG9, SDG13		
6. Risk Categorization:	Complex		
7. Safeguard Categorization	Environment: A Involuntary Resettlement: A Indigenous Peoples: C		
8. Financing			
Modality and Sources		Amount (\$ million)	
ADB		415.00	
Sovereign Project (Regular Loan): Ordinary capital resources		415.00	
Cofinancing		60.00	
European Bank for Reconstruction and Development - Project loan (Not ADB Administered)		60.00	
Counterpart		83.60	
Government		83.60	
Total		558.60	
Currency of ADB Financing: EUR			



I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Georgia for the North–South Corridor (Kvesheti–Kobi) Road Project.

2. The project will improve connectivity and safety along the North–South Corridor by (i) (a) constructing about 23 kilometers (km) of climate-resilient two-lane highway between Kvesheti and Kobi (the project road) and about 5 km of all-weather access roads, and (b) increasing road safety awareness; (ii) establishing a visitor center in the Khada Valley to support tourism activities; and (iii) enhancing the capacity of the Roads Department on project and contract management.¹ The project expands efforts of the Asian Development Bank (ADB) and other development partners to upgrade the country’s national highway network along key economic corridors. It will enhance inclusive economic growth and regional connectivity.

II. THE PROJECT

A. Rationale

3. **Strategic location.** Georgia is located at the center of transit routes linking Europe and Asia. Trade with neighboring countries—Armenia, Azerbaijan, the Russian Federation, and Turkey—is important to Georgia’s economy. In 2015, the total transit trade of 11.0 million tons was similar to the total of exports (2.0 million tons) and imports (8.9 million tons). Georgia’s main trade partners include Turkey (trade turnover of \$1,629 million), the Russian Federation (\$1,190 million), and the People’s Republic of China (\$966 million).² International tourism is one of Georgia’s fastest-growing economic and export sectors, and accounted for about 7% of gross domestic product (GDP) in 2017.

4. **Regional connectivity.** The Government of Georgia is making substantial investments in infrastructure intended to take advantage of its location and tourism attractions, and is emphasizing the country’s transit trade through development of the East–West and North–South transport corridors. The East–West Highway is part of Corridor 2 of the Central Asia Regional Economic Cooperation (CAREC) Program, and connects to the North–South Corridor at Mtskheta, directly north of Tbilisi. The East–West Highway is being upgraded with the assistance of ADB, the European Investment Bank, the Japan International Cooperation Agency, and the World Bank. The North–South Corridor connects the Russian border (Kazbegi) to the Armenian border (Sadakhlo) and the Azerbaijani border (Red Bridge). It is a lifeline for Georgian and Armenian economic activities, and provides the only land access to the Russian Federation.

5. **Road sector policy context.** The national development strategy aims to transform Georgia into a regional transport and logistics hub.³ The government’s transport investments have focused on the road sector, with rail and port sector investments financed largely by the private sector. The Ministry of Regional Development and Infrastructure (MRDI) developed an Action Plan for 2018–2021 that budgeted GEL10,231 million for infrastructure development, of which about GEL7,324 million was allocated for improvement of roads (72%).⁴ The government has targeted its financing and priority interventions on the East–West Highway, the North–South Corridor, and critical sections of the secondary road network.⁵

¹ The Asian Development Bank provided transaction technical assistance for the project: ADB. Georgia. [Preparing the North-South Corridor \(Kvesheti–Kobi\) Road Project](#) (TA 9552-GEO).

² The Observatory of Economic Complexity. [Where does Georgia import from? \(2017\)](#) (accessed 17 May 2019).

³ Government of Georgia. 2014. *Social-economic Development Strategy of Georgia “GEORGIA 2020”*. Tbilisi.

⁴ MRDI. 2018. *Regional Development Programme of Georgia, 2018–2021*. Tbilisi.

⁵ MRDI Roads Department. 2018. *2017 Annual Report*. Tbilisi.

6. Georgia is vulnerable to the impacts of climate change and has high exposure to natural hazards.⁶ In particular, mountainous areas face adverse and worsening conditions as a result of climate change, with increased frequency of extreme precipitation events, avalanches, landslides, and mudflows.⁷ Accordingly, the government has prioritized and committed to reducing the risks of climate change through investment in climate-resilient infrastructure, including roads, bridges, and tunnels, and developing early-warning systems (footnotes 3 and 7).

7. **Sector performance.** The road network totals about 22,000 km, including about 1,520 km of international roads and 5,370 km of secondary roads managed by the Roads Department under the MRDI, as well as 15,000 km of local roads managed by municipal administrations. While most (85%) of the international roads are in good or fair condition, about 40% of the secondary roads and 60% of the local roads are in poor condition. Travelling through and within Georgia can be time consuming, uncomfortable, and expensive, and disproportionately affects women's access to jobs, markets, and public services.

8. Road maintenance expenditure—including rehabilitation, and periodic and routine maintenance—totaled about \$149 million equivalent in 2018, which compares favorably with other countries in the region.⁸ The government has made continued efforts to improve road maintenance planning, budgeting, and efficiency through the development of a road asset management system, the piloting of performance-based maintenance (PBM) contracts, and the assessment of tolling options. The road asset management system informs a 5-year rolling planning and programming process. The Roads Department contracts all construction and maintenance activities to the private sector through open competitive bidding. One PBM contract is under implementation (Kakheti region) and two other PBM contracts are being prepared under ADB and World Bank financing. The government recently sought assistance from development partners to implement e-tolling on priority highway sections, including the project road (para. 39).

9. The road safety situation is improving, with some promising recent developments. The road traffic fatality rate declined from 16.8 fatalities per 100,000 people in 2010 to 15.3 fatalities per 100,000 people in 2016, but road safety remains a concern, and compares unfavorably with European Union countries (2016 road traffic fatality rates were 5.5 in France and 4.1 in Germany).⁹ In 2015, the government enacted the revised Law on Road Traffic that included road safety-related amendments. The government approved a National Road Safety Strategy in 2016, and an interagency Road Safety Commission was subsequently established. Road safety investment planning and performance-tracking systems are being developed following the International Road Assessment Program's approaches and methodologies. Systematic road safety audits and public-awareness campaigns are needed to support the government's efforts to reduce road traffic injuries and fatalities.

10. **North–South Corridor.** The North–South Corridor connects Tbilisi (1,159,000 people) to the Mtskheta–Mtianeti region (95,000 people) in the north and to the Kvemo Kartli region (424,000 people) in the south. It serves as the main transport artery for the Mtskheta–Mtianeti region, and spans quite diverse and spectacular terrain, from the historic capital of Georgia (Mtskheta) north to Stepantsminda in the Greater Caucasus mountains. The region is home to many tourist attractions, including cultural heritage sites, ski resorts, natural parks, and monuments. Traffic

⁶ C. Chen et al. 2015. *University of Notre Dame Global Adaptation Index. Country Index Technical Report*. Notre Dame. [ND Gain Country Index \(2017\)](#) (accessed 14 May 2019).

⁷ Government of Georgia. 2015. *Georgia's Intended Nationally Determined Contribution Submission to the UNFCCC*. Tbilisi.

⁸ Economic and Financial Analysis (accessible from the list of linked documents in Appendix 2).

⁹ World Health Organization. 2018. *Global Status Report on Road Safety*. Geneva.

disruption, adverse climate conditions, safety hazards, and slow travel times are major impediments to meeting increasing transport demand and harnessing the tourism potential of the region. The government has developed a tourism strategy for the region that identified, through a value chain analysis, a number of opportunities and priority interventions for the Gudauri and Khada valleys.¹⁰ Lack of tourist information centers, inadequate guest house services, and limited guide training were identified among the possible areas for improvements.

11. Prefeasibility and feasibility studies were prepared, under World Bank financing, for the most problematic portion of the North–South Corridor, which extends from Jinali to the Russian border (about 100 km). The studies concluded that the central section connecting Kvesheti to Kobi (34 km) through the Jvari Pass (2,379 meters above sea level) was a key bottleneck and needed a bypass road through the Khada Valley (para. 30). The existing Kvesheti–Kobi road section experiences heavy traffic and is unsafe as a result of an alignment that is inadequate for the challenging geographical and climatic conditions, particularly in winter. Avalanche, landslide, and snow load risks are significant, and these cause frequent and extended road closures. The existing highway provides a low standard alignment, which is characterized by substandard open tunnels and avalanche galleries, where modern trucks cannot pass simultaneously.

12. Recognizing these challenges, the government has requested the assistance of ADB and the European Bank for Reconstruction and Development (EBRD) to progressively improve the North–South Corridor by (i) constructing a climate-resilient two-lane bypass road between Kvesheti and Kobi; (ii) providing adequate safety features and improving geometric alignment; and (iii) providing well-designed tunnels that will enable safe, year-round two-way traffic. The project will also help realize the tourism potential of Kazbegi and the Mtskheta–Mtianeti region by establishing a multipurpose visitor center in the Khada Valley. It will help enhance the experience and length of stay of visitors to the region, and provide training and business opportunities for local communities.

13. **Strategic fit.** The project is aligned with ADB's Strategy 2030, and supports four of its seven operational priorities: (i) addressing remaining poverty and reducing inequalities (para. 44); (ii) accelerating progress in gender equality (para. 45); (iii) tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability (paras. 11–12); and (iv) fostering regional cooperation and integration (para. 4).¹¹ Improving the project road is a government priority, as reflected by its inclusion in the country operations business plan for Georgia, 2019–2021.¹² The project is consistent with ADB's forthcoming country partnership strategy for Georgia, 2019–2023, which aims to develop economic corridors for private sector development to create more jobs, combat poverty, and facilitate interregional trade.

14. **Lessons.** Since 2009, ADB has financed several preparatory studies and four road projects, including three stand-alone projects and one multitranche financing facility, totaling nearly \$1 billion.¹³ The country partnership strategy final review (2014–2018) rated ADB's

¹⁰ World Bank. 2014. *Mtskheta–Mtianeti Regional Tourism Development Strategy 2015–2020*. Unpublished.

¹¹ ADB. 2018. [Strategy 2030. Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific](#). Manila.

¹² ADB. 2018. [Country Operations Business Plan: Georgia, 2019–2021](#). Manila; and ADB. 2019. *Country Partnership Strategy: Georgia, 2019–2023—Developing Caucasus' Gateway to the World* (draft).

¹³ ADB. 2009. [Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to Georgia for the Road Corridor Investment Program](#). Manila.; ADB. 2017. [Report and Recommendation of the President to the Board of Directors: Proposed Loan to Georgia for the Batumi Bypass Road Project](#). Manila; ADB. 2017. [Report and Recommendation of the President to the Board of Directors: Proposed Loan to Georgia for the Secondary Road Improvement Project](#). Manila.; ADB. 2018. [Report and Recommendation of the President to the](#)

sovereign operation in the transport sector as successful. This assessment was subsequently validated by ADB's Independent Evaluation Department, which also recommended to further focus on regional cooperation and integration as key driver of change.¹⁴ Lessons from completed and ongoing projects include the need to (i) increase communication and engagement with affected people and other project stakeholders, (ii) improve the implementation-readiness of land acquisition and resettlement plans, and (iii) enhance the Roads Department's project and contract management capacity. These lessons have been incorporated into the design of the proposed project in synergy with other ADB-assisted interventions. Continuous support and dialogue with the government and development partners active in the sector will help ensure sound project operation and management upon its completion.

15. **Value added by ADB assistance.** ADB is supporting the government in developing a road maintenance strategy, while EBRD has supported the government in preparing a national electronic toll collection strategy.¹⁵ Through the project, ADB will help the government in: (i) ensuring that adequate climate change adaptation, gender-sensitive, and road safety features are incorporated into the engineering design; (ii) implementing a biodiversity action plan and a stakeholder engagement plan to mitigate key project risks; and (iii) expanding the regional spillover and economic benefits supported by other ADB-assisted projects in Georgia and Armenia. Further, ADB's leading role in the CAREC program will provide the government with tools and opportunities for information sharing and learning on road safety and asset management.

B. Impacts and Outcome

16. The project is aligned with the following impacts: (i) economic growth and regional connectivity enhanced (footnote 3); and (ii) trade, tourism, and economic corridors improved.¹⁶ The project will have the following outcome: connectivity, safety, and livelihoods along the North–South Corridor improved.¹⁷

C. Outputs

17. **Output 1: Project roads constructed, and road safety awareness increased.** This output will include the construction of (i) about 23 km of climate-resilient bypass road between Kvesheti and Kobi, and (ii) about 5 km of climate-resilient all-weather access roads to roadside towns and villages. The project roads will include safety facilities fitted for the elderly, children, women, and differently abled. This output will also include the development and implementation of a gender-sensitive road safety awareness campaign for roadside villages and schools.

18. **Output 2: Khada Valley visitor center established.** This output will include the construction and setup of a multipurpose visitor center with gender-friendly facilities. The visitor center may include a small-scale agricultural market, an exhibition area for craft products and cultural heritage, and a booking hub for tourism and conservation activities. This output will also include socially inclusive and gender-sensitive training on tourism-related business development.

19. **Output 3: Capacity of the Roads Department for project and contract management enhanced.** This output will include training of selected Roads Department staff, including 50% of

Board of Directors: Proposed Loan to Georgia for the East–West Highway (Khevi–Ubisa Section) Improvement Project. Manila.

¹⁴ ADB. 2019. *Georgia: Validation of the Country Partnership Strategy Final Review, 2014–2018.* Manila.

¹⁵ ADB. 2016. *Technical Assistance Consultant's Report: Support for Transportation Policy to Georgia.* Manila.

¹⁶ ADB. 2017. *CAREC 2030, Connecting the Region for Shared and Sustainable Development.* Manila.

¹⁷ The design and monitoring framework is in Appendix 1.

women, in (i) operation and maintenance of tunnels, including climate change and disaster risk management; and (ii) contract management and claims and disputes resolution management under International Federation of Consulting Engineers contracts. This output will also include independent advisory support (on an as-needed basis) provided by highly specialized experts on project and contract management.

D. Summary Cost Estimates and Financing Plan

20. The project is estimated to cost \$558.6 million (Table 1). Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).¹⁸

Table 1: Summary Cost Estimates
(\$ million)

Items	Amount ^a
A. Base Cost^b	
1. Output 1: Project roads constructed, and road safety awareness increased ^c	483.0
2. Output 2: Khada Valley visitor center established	0.6
3. Output 3: Capacity of Roads Department for project and contract management enhanced	0.5
Subtotal (A)	484.2
B. Contingencies^d	51.1
C. Financing Charges During Implementation^e	23.3
Total (A+B+C)	558.6

^a Includes taxes and duties of \$73 million to be financed by the government through cash contribution.

^b In mid-2019 prices as of April 2019.

^c Physical contingencies computed at 5% for civil works and consulting services. Price contingencies computed at an average of 1.6% on foreign exchange costs and 2.9% on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^d In the event that the European Bank for Reconstruction and Development's loan effectiveness is delayed, the Asian Development Bank financing may be front-loaded for payments to be made under the cofinanced works contract (CP-01R).

^e Includes interest and commitment charges. Interest during construction for the ordinary capital resources loan has been computed at the 7-year euro fixed swap rate plus an effective contractual spread of 0.5% and maturity premium of 0.2%. Commitment charges for the ordinary capital resources loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

21. The government has requested a regular loan of €370,238,000 (\$415 million) from ADB's ordinary capital resources to help finance the project.¹⁹ The loan will have a 26-year term, including a grace period of 11 years; an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan); and such other terms and conditions set forth in the draft loan agreement. Based on the straight-line method, the average maturity is 18.75 years, and the maturity premium payable to ADB is 0.20% per year.

22. The summary financing plan is in Table 2. ADB will finance the expenditures in relation to civil works, consulting services, and financing charges during implementation. The EBRD will provide loan financing equivalent to \$60 million, which will exclusively cofinance the works contract for the construction of the tunnel section (CP-01R) as collaborative cofinancing (para. 27). ADB will not administer the EBRD loan. Each cofinancier will manage, in close coordination, its own pro rata share of disbursements for payments related to the cofinanced contract.

¹⁸ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

¹⁹ €0.89 = \$1.00 as of 19 June 2019. The loan will be denominated in euros.

23. The government will contribute \$83.6 million to cover taxes and duties, land acquisition, and resettlement costs. ADB and EBRD will not finance taxes. The government has agreed to secure all counterpart funds required for the smooth and effective implementation of the project, including any shortfall of funds or cost overrun, and to ensure that all such funds are released in a timely manner.

Table 2: Summary Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (regular loan)	415.0	74.3
European Bank for Reconstruction and Development (loan)	60.0	10.7
Government of Georgia	83.6	15.0
Total	558.6	100.0

Source: Asian Development Bank estimates.

24. Climate change adaptation is estimated to cost \$210 million and comprises (i) tunneling to avoid expected increasing risks from natural hazards, (ii) new pavement structure to reduce risks of future increased diurnal temperature range, and (iii) retaining walls and mass movement protection. ADB will finance about 80% of adaptation costs, totaling \$170 million.²⁰

E. Implementation Arrangements

25. The MRDI will be the executing agency, and its Roads Department will be the implementing agency. The Eurasian Transport Corridor Investment Center (ETCIC) of MRDI will assist the Roads Department with project financial management activities. The MRDI will be assisted by other relevant departments and the project management and contract supervision consultant (PMSCS) during project implementation.

26. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 18). The project's procurement readiness is high, given that the three main contracts are being procured through advance contracting.²¹ The government has been advised that advance contracting and retroactive financing do not commit ADB to finance the project.

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	September 2019–June 2026		
Estimated completion date	30 June 2026		
Estimated loan closing date	31 December 2026		
Management			
(i) Executing agency	Ministry of Regional Development and Infrastructure		
(ii) Implementing agency	Roads Department		
Procurement	Open competitive bidding	2 contracts	\$441,500,000
Consulting services	Quality- and cost-based selection	1 contract	\$8,400,000
	Quality-based selection	1 contract	\$250,000
	Individual consultant selection	5–6 contracts	\$560,000
	Least-cost selection	1 contract	\$100,000
Retroactive financing and advance contracting	Retroactive financing of up to 20% of the loan amount will be allowed for civil works and consulting services expenditures incurred before loan effectiveness, but not earlier than 12 months before loan signing. Advance contracting will be applied for civil works and consulting services. Any approval of advance contracting will not constitute a commitment by ADB to finance the project.		

²⁰ Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

²¹ The CP-02 contract (road section) and CS-01 contract (PMSCS) are expected to be awarded in July 2019. The CP-01R contract (tunnel section) is expected to be awarded by September 2019.

Aspects	Arrangements
Disbursement	The ADB loan proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.

ADB = Asian Development Bank.

Source: Asian Development Bank.

27. ADB and EBRD will cofinance a single civil works contract for the construction of the tunnel (CP-01R). ADB will be the sole financier for the construction of the road section (CP-02). All contracts will be procured in accordance with the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). Universal procurement will only apply to the single cofinanced CP-01R contract. A project implementation agreement will be signed between ADB and EBRD that sets out the terms and conditions under which cofinancing of the tunnel section (CP-01R) construction will take place.

28. ADB and EBRD agreed that each of their respective policies and procedures will be followed in (i) case of disbursement arrangements and establishment of accounts used for payments from their respective loans, as may be applicable; (ii) the reporting mechanisms and auditing of project accounts relating to their respective loans; and (iii) the measures against fraud, corruption, money laundering, and the financing of terrorism.

29. ADB and EBRD agreed to adopt a unified social and environmental assessment and planning process, as well as unified safeguard documentation, consultation, and disclosure requirements to satisfy both ADB's Safeguard Policy Statement (2009) and EBRD's safeguards requirements as stipulated in EBRD's Environmental and Social Policy.²² During project implementation, ADB and EBRD will jointly supervise and monitor the environmental and social aspects of the tunnel section (CP-01R), while ADB will be responsible for supervising and monitoring the environmental and social aspects of the road section (CP-02).

III. DUE DILIGENCE

A. Technical

30. **Alignment alternatives.** The engineering studies commenced with a prefeasibility study that assessed several alignments in three alternative corridors: two within the Gudauri Valley and one within the Khada Valley. An upgrade of the existing road alignment with improved geometry and avalanche galleries was considered, but deemed inadequate as it would not address the core road functionality and safety problems as well as climate-related risks.²³ The two corridors in the Gudauri Valley were not considered feasible mainly due to adverse geological conditions resulting in high risks for tunnel construction and safety, and possible significant impacts on the Kazbegi National Park (about 6km of the new highway would have run through the Park). Geological conditions in the Khada Valley were considered acceptable, and thus it was deemed the only feasible corridor for the project. During the feasibility study, the Khada Valley corridor was refined to three possible alignments. A comprehensive multicriteria analysis concluded that the proposed road alignment requires a 9 km long tunnel through the mountain range between Tskere and Kobi.

31. **Road design.** Reflecting the difficult terrain, the road design provides for five tunnels, the longest of which is about 9 km, and six bridges, the largest of which is a 425-meter (m) span arch structure about 165 m above river level. The road cross section will have two traffic lanes (each 3.5 m wide, with 2.5 m surfaced shoulders). Climbing and passing lanes will also be provided for

²² EBRD. 2014. *Environmental and Social Policy*. London.

²³ Environmental Impact Assessment (accessible from the list of linked documents in Appendix 2).

about 70% of the road length. This cross section will be adequate for the traffic of about 14,000 vehicles per day that is projected to use the road up to the end of the economic evaluation period in 2048. Of this traffic, about 69% will be passenger vehicles and about 17% heavy and medium goods vehicles. The remaining traffic will be buses and smaller commercial vehicles.

32. **Road pavements** will be flexible with asphaltic concrete surfacing. The road and bridge designs have been prepared in accordance with appropriate international design standards and take into account the extreme climatic conditions that exist in the project area. The road design also reflects consultations with communities living adjacent to the road, which have resulted in the inclusion in the project road's design of several village access roads, and crossing places for people and livestock, with appropriate warning devices.

33. **Road safety.** The road design meets internationally accepted standards and practices in terms of road safety, and the design review team included an international road safety specialist. The tunnels are designed to reflect the provisions of the European Union Directive 2004/54/EC on minimum safety requirements for tunnels in the Trans-European Road Network. The design will be subjected to detailed road safety audits during construction, and prior to final acceptance of the completed road. The road safety audits will be conducted, before construction, during construction, and prior to completion, in close coordination with the traffic police and relevant government agencies.

34. **Climate change.** The primary climate change adaptation under the project is the overall road realignment and tunneling. In addition, a detailed climate risk assessment was conducted for the project road for the period to 2050 to ensure that the design specifications are adequate for future climatic conditions (footnote 20). The frequency and magnitude of avalanches, floods, and landslides are likely to increase, and about 10% of the project road drainage systems were found to have potentially insufficient capacity under future extreme precipitation events. These drainages structures will be reviewed by the PMCSC during project implementation and their dimensions will be increased as appropriate.

35. The technical due diligence confirmed that the project road's technical design, alignment, cross-section, bridges, tunnels, drainage structures, pavements, and climate and road safety provisions are appropriate for a road of this standard in this location, and for the volume of traffic that is projected to use it.

B. Economic and Financial

36. **Economic viability.** The economic evaluation of the project was undertaken using the highway development and management model, and in accordance with relevant ADB guidelines.²⁴ For the economic analysis, the with-project scenario assumed the improvement of the 23 km road section from Kvesheti to Kobi. Without the project, the road is expected to deteriorate to an average international roughness index value of 8.5 within 5 years, rendering it in poor condition. Future traffic was estimated based on classified traffic counts conducted in 2017, and available GDP growth forecasts.

37. The project is economically viable with an estimated economic internal rate of return of 13.2%, with a net present value of \$190 million at a 9% discount rate. The principal quantifiable benefits are reduced vehicle operating costs and reduced travel time. Sensitivity tests confirmed that the economic viability of the project is robust against project cost increases of up to 164%

²⁴ ADB. 2017. *Guidelines for the Economic Analysis of Projects*. Manila.

and decreases in benefits of up to 61%. The project's economic internal rate of return remains at 11.9% even with the exclusion of generated traffic, diverted traffic, and road safety benefits.

38. **Financial sustainability.** The project is nonrevenue generating. The project road will be maintained under the government's maintenance program. An assessment of the MRDI's road asset management practices and capabilities was carried out during project preparation. Steady increases in road sector funding since 2004 led to major backlog recovery. During 2014–2018, (i) annual expenditure for road maintenance nearly doubled, from GEL218 million to GEL407 million; (ii) the compounded growth rate for annual road maintenance expenditure was 13.3%, with an average annual inflation rate of 3.6%; and (iii) the compounded annual growth of road-related revenues was 15.1%, or 1.2%–2.1% of GDP. The annual average incremental maintenance costs associated with the project are estimated to be in line with the current expenditure (\$25,000 per km).

39. The government recognizes the need to further expand its revenue base to cater for future needs, and has sought assistance from development partners to assess the potential and suitability of road tolling. Two studies supported by the World Bank and EBRD recommended tolling as viable revenue source.²⁵ The government is recruiting consultants to (i) conduct a feasibility of seven pre-identified priority highway sections, including the project road; and (ii) prepare technical, financial, and bidding documentation for the three most viable tolling projects. The financial analysis concluded that the MRDI has sufficient financial capacity, within the government's budgetary procedures, to meet recurrent expenditures to adequately operate and maintain the project road.

C. Governance

40. **Financial management.** The financial management assessment (FMA) was undertaken in accordance with relevant ADB guidelines.²⁶ The FMA considered the Roads Department's capacity with regard to fund-flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. The FMA concluded that the financial management risk—both inherent risk and control risk—is *moderate* mainly because of (i) the growing portfolio of externally funded projects that may lead to insufficient staffing within ETCIC and (ii) lack of variance analysis between budgeted and actual expenditure that may lead to inadequate financial reporting. The FMA further concluded that, if these issues are addressed, the ETCIC has sufficient and appropriate financial management capacity to implement the project. The MRDI, the Roads Department, and ETCIC will maintain adequate and separate project records and accounts, which will be audited annually by an independent auditor.

41. **Procurement.** A project procurement risk assessment (PPRA) was undertaken in accordance with relevant ADB guidelines.²⁷ The PPRA considered the Roads Department's capacity with regard to organization and staffing, information management, procurement practices, complaints and dispute resolution mechanisms, and accountability measures. The PPRA concluded that the procurement risk is *moderate* because of (i) the growing portfolio of externally funded projects that may lead to insufficient staffing within the Roads Department and (ii) record management systems and procedures that need further improvement. The PPRA concluded that, if these issues are addressed, the Roads Department has sufficient and

²⁵ Global Infrastructure Facility. 2017. *Georgia: East-West Highway Tolling and O&M Concession*. Unpublished.; WS Atkins International Ltd. 2018. *Georgia: Development of a National Electronic Toll Collection Strategy*. Unpublished.

²⁶ ADB. 2009. *Financial Due Diligence: A Methodology Note*. Manila; and ADB. 2005. *Guidelines for the Financial Management and Analysis of Projects*. Manila.

²⁷ ADB. 2015. *Guide on Assessing Procurement Risks and Determining Project Classification*. Manila.

appropriate procurement capacity to implement the project. The project's procurement readiness is high, given that the three main contracts are being procured through advance contracting (footnote 21). The government has been advised that advance contracting and retroactive financing do not commit ADB to finance the project.

42. **Institutional capacity.** The MRDI and the Roads Department have an adequate understanding of ADB's procurement and financial management policy and procedures as a result of the sizable portfolio of ADB-assisted transport operations. Some shortcomings on land acquisition and resettlement, particularly in relation to grievance management, have been identified in the ongoing Batumi Bypass Road Project (footnote 13). These weaknesses are being addressed through regional technical assistance, which includes on-the-job training of Roads Department staff and implementation of grievance management tools.²⁸ One experienced consultant has been assigned to work with the Roads Department on a continuous basis to help improve compliance with ADB's social safeguards requirements.

43. **Anticorruption.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, the MRDI, and the Roads Department. The specific policy requirements and supplementary measures are described in the PAM (footnote 18).

D. Poverty, Social, and Gender

44. Socioeconomic surveys and gender assessment were carried out during project preparation, and a summary poverty reduction and social strategy was prepared. Average monthly income in the project area is substantially lower than the national average of GEL955 because of insufficient productive assets, seasonal jobs, and limited business and training opportunities.²⁹ Towns and villages in the project area are increasingly benefitting from a booming tourism sector. The project will benefit about 86,000 people located along the project road and the North–South Corridor by improving access to jobs, markets, and public services while reducing road traffic fatalities and injuries. Further, the Khada Valley visitor center will support tourism-related jobs and training, and will provide livelihood improvement opportunities for project-affected people and local communities.

45. The project is categorized *effective gender mainstreaming*. The project will address the gender issues identified during project preparation, which included enhancing connectivity of the villages through all-weather access roads, increasing road safety features and awareness, and supporting tourism-related job and training opportunities. A gender action plan was prepared in consultation with project beneficiaries and government officials.³⁰ The gender action plan includes activities supporting (i) gender-responsive and socially inclusive design features across all infrastructure built under the project, (ii) affirmative measures to enhance women's access to job and training opportunities in both the Roads Department and the Khada Valley visitor center, and (iii) sex-disaggregated monitoring and reporting of project's progress and achievements. The PMCSC team includes a social development specialist who will assist the Roads Department in implementing and monitoring the gender action plan. The Roads Department will further take necessary actions to encourage women living in the project area to participate in the design and implementation of project activities following the principles of gender equality.

²⁸ ADB. 2018. [Technical Assistance for Supporting Social Safeguards in the Central and West Asia Region](#). Manila.

²⁹ A household survey was undertaken and 70% of respondents reported a monthly income of less than GEL600.

³⁰ Gender Action Plan (accessible from the list of linked documents in Appendix 2).

E. Safeguards

46. In compliance with ADB's Safeguard Policy Statement, the project's safeguard categorization is A for environment and involuntary resettlement impacts, and C for indigenous peoples.³¹ All safeguard documents were prepared based on meaningful consultations with affected people and communities (45 consultation events were held), endorsed by the government authorities, and disclosed on the ADB website in accordance with ADB's Access to Information Policy.³² A stakeholder engagement plan and supporting communication materials (fact sheet, frequently asked questions) have been developed and disclosed during project preparation. These documents will be further updated throughout project implementation.

47. Grievance redress, monitoring, and reporting procedures have been agreed with the Roads Department and specified in all safeguard documents. During project implementation, all safeguards documents will be updated as necessary, reviewed by ADB, and publicly disclosed. The project includes adequate resources to implement and monitor environmental and social mitigation measures. The MRDI and Roads Department are experienced in implementing large and complex road projects with significant social and environmental impacts. Support with grievance management will be provided during project implementation. The Roads Department will be assisted by the PMCSC and resettlement, biodiversity, and cultural heritage consultants to ensure compliance with the project's safeguard requirements and prepare semiannual safeguards monitoring reports for ADB's review and disclosure. The Roads Department will also engage qualified and experienced external monitors to verify environmental and resettlement impacts.

48. **Environment (category A).** The Roads Department has prepared an environmental impact assessment and an environmental management plan (EMP) that were disclosed on the ADB and Roads Department websites on 1 April 2019 (footnote 23). The full environment and social impact assessment package in line with EBRD requirements was disclosed on 3 May 2019. The main anticipated site-specific impacts during construction include air and surface water pollution, noise and vibration, soil erosion, soil material disposal, loss or degradation of natural habitat, occupational health and safety, relocation of utilities, and traffic disruption. The relative short-term nature of these impacts means that in general impacts will not be significant if the EMP and the biodiversity action plan are duly implemented. During operation, the main anticipated residual impacts include those to residents and notable specifics, from noise disturbance and induced development, as well as the overall impact to the landscape character of the Khada Valley. However, adequate mitigation has been included in the project design and EMP to ensure that residual impacts have been reduced to an acceptable level. These measures will be implemented through the two civil works contracts and monitored through the PMCSC's contract.

49. **Involuntary resettlement (category A).** The Roads Department has prepared two land acquisition and resettlement plans (LARPs) for the tunnel section (CP-01R; also referred to as Lot 1) and the road section (CP-02; also referred to as Lot 2). The LARP for Lot 1 was disclosed on the ADB and Roads Department websites in April 2019, while the LARP for Lot 2 was disclosed in May 2019.³³ The census carried out during project preparation identified approximately 158 households (616 people) that will be directly affected by land acquisition for the project. There will be about 108 severely affected households (441 people), which are either physically displaced (11 households) or will lose 10% or more of their productive assets. A total of 30 households have been classified vulnerable. All affected people will receive adequate compensation in accordance

³¹ ADB. [Safeguard Categories](#).

³² ADB. 2018. *Access to Information Policy*. Manila.

³³ Land Acquisition and Resettlement Plans (accessible from the list of linked documents in Appendix 2).

with the provisions included in the LARPs. An independent and sample-based valuation of land plots is being carried out before LARP implementation to confirm the adequacy of the land valuation. Additional due diligence will be conducted for the access roads and the visitor center, and the LARP for Lot 2 will be updated as appropriate.

50. **Indigenous peoples (category C).** There are no indigenous peoples in the project area as defined in ADB's Safeguard Policy Statement.

F. Summary of Risk Assessment and Risk Management Plan

51. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.³⁴ The project risks are considered manageable through the prescribed mitigation measures.

Table 4: Summary of Risks and Mitigation Measures

Risks	Mitigation Measures
Deterioration of bilateral relationships with neighboring countries and border crossing performance at Larsi border crossing point may adversely affect cargo volumes	Cargo accounts for about 15% of traffic on the project road; thus the project's economic viability will not be affected by a deterioration of performance at Larsi border crossing point. The Customs Department will explore information and communication technology options to improve e-queuing and minimize northbound traffic bottlenecks. A new Transports Internationaux Routiers (International Road Transports) park for heavy goods vehicles was built in 2018 in Kazbegi to improve safety and minimize air pollution on the North–South Corridor.
Exceptional conditions encountered during tunnel boring machine excavation may delay construction	A risk register was prepared by the project design consultant and reviewed by an independent tunnel expert. The main construction risks include high water inflow, temperature, and rock abrasiveness; and tunnel boring machine entrapment. Risk-sharing mechanisms and payment provisions were introduced for these risks in the bidding and contractual documentation.

Source: Asian Development Bank.

IV. ASSURANCES

52. The government, MRDI, and the Roads Department have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents. The government, MRDI, and the Roads Department have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement.

V. RECOMMENDATION

53. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of €370,238,000 to Georgia for the North–South Corridor (Kvesheti–Kobi) Road Project, from ADB's ordinary capital resources, in regular terms, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 26 years, including a grace period of 11 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

10 July 2019

³⁴ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK

Impacts the Project is Aligned with			
Economic growth and regional connectivity enhanced (Georgia Development Strategy) ^a			
Trade, tourism, and economic corridors improved (CAREC 2030) ^b			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
Outcome Connectivity, safety, and livelihoods along the North–South Corridor improved	By 2026: a. Average daily vehicle-km reached 134,000 in the first full year of operation of the project road (2018 baseline: 123,000) b. Road traffic deaths and injuries per 10 million vehicle-km of travel on the project road reduced by 25% (2018 baseline: 5.2) ^b c. Annual winter road closures on the North–South Corridor reduced by 60% (2012–2016 average baseline: 44 days) d. At least 6,000 people visited the Khada Valley visitor center within its first full year of operation (2018 baseline: 0)	a. Project final report from PMCSC b. Annual statistics on road accidents from Roads Department c. Annual statistics on road winter closures from Roads Department d. Annual statistics on visitor centers from Georgian National Tourism Administration	Deterioration of bilateral relationships with neighboring countries and border crossing performance at Larsi BCP may adversely affect cargo volumes.
Outputs 1. Project roads constructed, and road safety awareness increased	By 2024: 1a. About 23 km of climate-resilient two-lane highway constructed to European Union standards between Kvesheti and Kobi (2018 baseline: 0) ^{c, d} 1b. About 5 km of climate-resilient all-weather access roads constructed (2018 baseline: 0) ^c 1c. At least 70% of roadside villages residents, including 50% of females, have increased awareness on road safety (2018 baseline: 0) ^e	1a.–1b. Project final report from PMCSC 1c. Road safety reports from PMCSC	Exceptional conditions encountered during tunnel boring machine excavation may delay construction.
2. Khada Valley visitor center established	By 2024: 2a. One multipurpose visitor center constructed to Georgian National Tourism Administration standards (2018 baseline: 0) ^c 2b. At least 50 local residents, including 50% of women, gained knowledge and skills from tourism-related job and business trainings (2018 baseline: 0) ^e	2a. Project final report from PMCSC 2b. Survey of training participants	
3. Capacity of the Roads Department for project and contract management enhanced	By 2023: 3a. At least 20 Roads Department staff, including 50% of women, have increased knowledge and skills on operation and maintenance of tunnels including climate change and disaster risk management (2018 baseline: Not applicable) ^e 3b. At least 20 Roads Department staff, including 50% of women, have increased knowledge and skills on management of contracts, claims, and disputes resolution (2018 baseline: Not applicable) ^e	3a. Survey of training participants 3b. Survey of training participants	

Key Activities with Milestones 1. Project roads constructed, and road safety awareness increased 1.1 Award civil works and construction supervision contracts by Q3 2019 and complete civil works by Q2 2024. 1.2 Conduct road safety awareness campaigns to roadside villages by Q4 2022. 2. Khada Valley visitor center established 2.1 Complete construction and setup of the visitor center by Q2 2024. 2.2 Train selected local residents in tourism-related business development by Q4 2022. 3. Capacity of the Roads Department for project and contract management enhanced 3.1 Train selected Roads Department staff in operation and management of tunnels by Q4 2022. 3.2 Train selected Roads Department staff in management of contracts, claims, and disputes resolution by Q4 2022.
Inputs Asian Development Bank: \$415 million (ordinary capital resources loan) European Bank for Reconstruction and Development: \$60.0 million (loan) Government of Georgia: \$83.6 million
Assumptions for Partner Financing Not applicable

CAREC = Central Asia Regional Economic Cooperation, km = kilometer, PMCSC = project management and contract supervision consultant, Q = quarter.

^a Government of Georgia. 2014. *Social-economic Development Strategy of Georgia "GEORGIA 2020"*. Tbilisi.

^b Asian Development Bank. 2017. *CAREC 2030, Connecting the Region for Shared and Sustainable Development*. Manila.

^c Includes provision and installation of elderly, women, children, and differently abled-friendly features and safety facilities.

^d Includes provisions of the [European Union Directive 2004/54/EC](#) on minimum safety requirements for tunnels in the Trans-European Road Network.

^e Data to be disaggregated by sex.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=51257-001-3>

1. Loan Agreement
2. Sector Assessment (Summary): Transport
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Economic and Financial Analysis
7. Country Economic Indicators
8. Summary Poverty Reduction and Social Strategy
9. Risk Assessment and Risk Management Plan
10. Climate Change Assessment
11. Gender Action Plan
12. Environmental Impact Assessment
13. Resettlement Plan: Tunnel Section
14. Resettlement Plan: Road Section

Supplementary Documents

15. Stakeholder Engagement Plan
16. Biodiversity Action Plan